

中国车前属(车前科)一新组合——丰都车前

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Plantago fengdouensis, a new combination in the Plantaginaceae from China

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Abstract A new combination, *Plantago fengdouensis* (Z. E. Zhao & Y. Wang) Y. Wang & Z. Y. Li, is proposed based on *P. erosa* Wall. var. *fengdouensis* Z. E. Zhao & Y. Wang. This species is similar to *P. cornuti* Gouan in the plant becoming black when dry and in having relatively large seeds, but differs by having leaves dentate or pinnately incised, 3(5)-nerved, bracts triangular-ovate, corolla lobes narrowly triangular, capsules fusiform-ellipsoid, circumscissile near the middle, and seeds longitudinally 1-grooved on the ventral side. *P. fengdouensis* belongs to *Plantago* L. subgen. *Plantago*, which is characterized by having corollas glabrous, filaments adnate near corolla base, and cotyledons parallel to the ventral side (i.e. hilum face). It is a highly restricted species in distribution, occurring only on two islets in Fengdu County and Zhong Xian County within the Three-Gorges Dam Area.

Key words *Plantago*, *Plantago fengdouensis*, new combination.

摘要 将 *Plantago erosa* Wall. var. *fengdouensis* Z. E. Zhao & Y. Wang 提升为一独立的种,即丰都车前 *P. fengdouensis* (Z. E. Zhao & Y. Wang) Y. Wang & Z. Y. Li。该种由于花冠无毛,花丝着生于花冠近基部,子叶在种子中与腹面(种脐面)相平行,应属于车前亚属 subgen. *Plantago*。丰都车前 *P. fengdouensis* 以植株干后变黑和种子较大的特征接近湿生车前 *P. cornuti* Gouan,但其叶具牙齿或羽状锐裂,具3脉,苞片三角状卵形,花冠裂片狭三角形,蒴果纺锤状椭圆球形,近中部周裂,种子腹侧具1纵槽而不同于后者。

关键词 车前属;丰都车前;新组合

作者于2001年4月在三峡库区重庆市丰都县城东长江江心沙滩上发现车前属 *Plantago* L. 一新植物,赵子恩等(2002)将其作为 *Plantago erosa* Wall. 的变种发表,命名为丰都车前 *P. erosa* var. *fengdouensis* Z. E. Zhao & Y. Wang。该类型在《中国植物志》(李振宇, 2002)中尚无记载。我们对移栽的活体及更多的标本进行了细致的观察和研究,认为该变种与疏花车前 *P. asiatica* L. ssp. *erosa* (Wall.) Z. Y. Li (*P. erosa* Wall.) 明显不同。丰都车前与车前 *P. asiatica* L. 的区别在于前者叶片披针形至线状披针形,长为宽的2.5倍

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以上,无毛或于裂片弯缺附近具短毛,花序梗无毛,花冠淡黄色,花药长 1.5–2.5 mm,黄色,种子长 2.1–2.8 mm,腹面具一纵槽,后者叶片宽卵形至宽椭圆形,长不及宽的 2 倍,与花序梗散生短柔毛,花冠白色,花药长 1–1.2 mm,种子长(1.2–)1.5–2 mm,腹面隆起,故应作独立的种处理。

丰都车前(武汉植物学研究) 图 1

Plantago fengdouensis(Z. E. Zhao & Y. Wang)Y. Wang & Z. Y. Li, stat. nov. Fig. 1

P. erosa Wall. var. *fengdouensis* Z. E. Zhao & Y. Wang in Journ. Wuhan Bot. Res. 20(4):63, fig. 2. 2002.

China. Chongqing (重庆): Fengdu (丰都), Mingshan (名山), Fengweiba (凤尾坝), alt. 145 m, 2001-04-17, J. Q. Wu (吴金清) 5926 (holotype, HIB!); Zhong Xian (忠县), alt. 140 m, 2003-03-28, Z. E. Zhao (赵子恩) 9041 (HIB).

Herb perennial; plant becoming black when dry. Adventitious fibrous roots numerous, up to 1 mm diam. Rhizome erect, 1–2.5 cm long, up to 1.2 cm diam., apex pale-brown-lanate. Leaves many, basal, spreading or erect, green when young, sometimes purplish when old; lamina thinly papery or papery, lanceolate to linear-lanceolate, 4–15 cm long, 1–4 cm wide, apex acute or acuminate, base cuneate, narrowly cuneate or decurrent, margin dentate to incised, each side with 1–5 triangular to linear lobes, rarely repand, both surfaces glabrous or white pubescent near the sinus between the lobes, nerves 3–5; petioles 1.5–10 cm, base vaginate with membranous margins. Inflorescences 1–7, erect, ascendent or arcuate; peduncle 4–15 cm long, striate, glabrous; spike narrowly cylindrical, 2–15 cm long, axis glabrous; flowers dense in upper part, lax in lower part; bracts ovate-triangular, 2–3 mm long, only upper margins with short hairs, keel broad and thick, extended to the bract apex, but not projected. Sepals 4, elliptic, glabrous, 2.2–2.7 mm long, anterior ones longer, up to 2 mm wide, apex subacute or rounded, keel broad and thick, extended to or near apex, not projected. Corolla pale yellow, glabrous; tube slightly longer than the calyx; lobes narrowly triangular, 1.4–1.6 mm long, apex acuminate, with a distinct midrib, erect, reflexed after anthesis. Stamens adnate to corolla tube 0.5 mm above base, exserted; anthers elliptic-ovate, 1.8–2.2 mm, broadly ovate when opened, apex with a narrowly triangular appendage, base cordate, yellow, yellow-brown when dry. Ovules 2–4(–6); style up to 6.5 mm long. Capsule usually 2–3-seeded, fusiform-elliptic, 3–4 mm long, circumscissile below the middle. Seeds blackish brown, elliptic or ovate-elliptic, sometimes angled, longitudinally 1-grooved on the ventral side; cotyledons parallel to the ventral side (i.e. hilum face). Fl. early April–late May, fr. late April–middle May.

丰都车前的叶基生呈莲座状,穗状花序细圆柱状,花冠无毛,两子叶在种子中与腹面(种脐面)相平行,无疑属于车前亚属 *Plantago* subgen. *Plantago*。丰都车前的叶形在一定程度上像 sect. *Mesembrynia* (Decne.) Rahn (如苣叶车前 *P. perssonii* Pilger) 和 sect. *Virginia* Barnéoud (如红籽车前 *P. rhodosperma* Decne.) 少数种,但在后两个组,花丝着生于冠筒内面近顶端,子房近顶端于近轴侧有一分隔室(compartment)或其退化残迹(Pilger, 1937; Rahn, 1995),而 sect. *Virginia* 的花为异型花(heteromorphic flower),其中闭锁花(cleistogamous flower)较为常见。

丰都车前的花为同型花(homomorphic flower),均为开花受精的花(chasmogamous flowers),花丝着生于冠筒内面近基部,子房近顶端近轴侧无分隔室或其退化残迹,符合 sect.

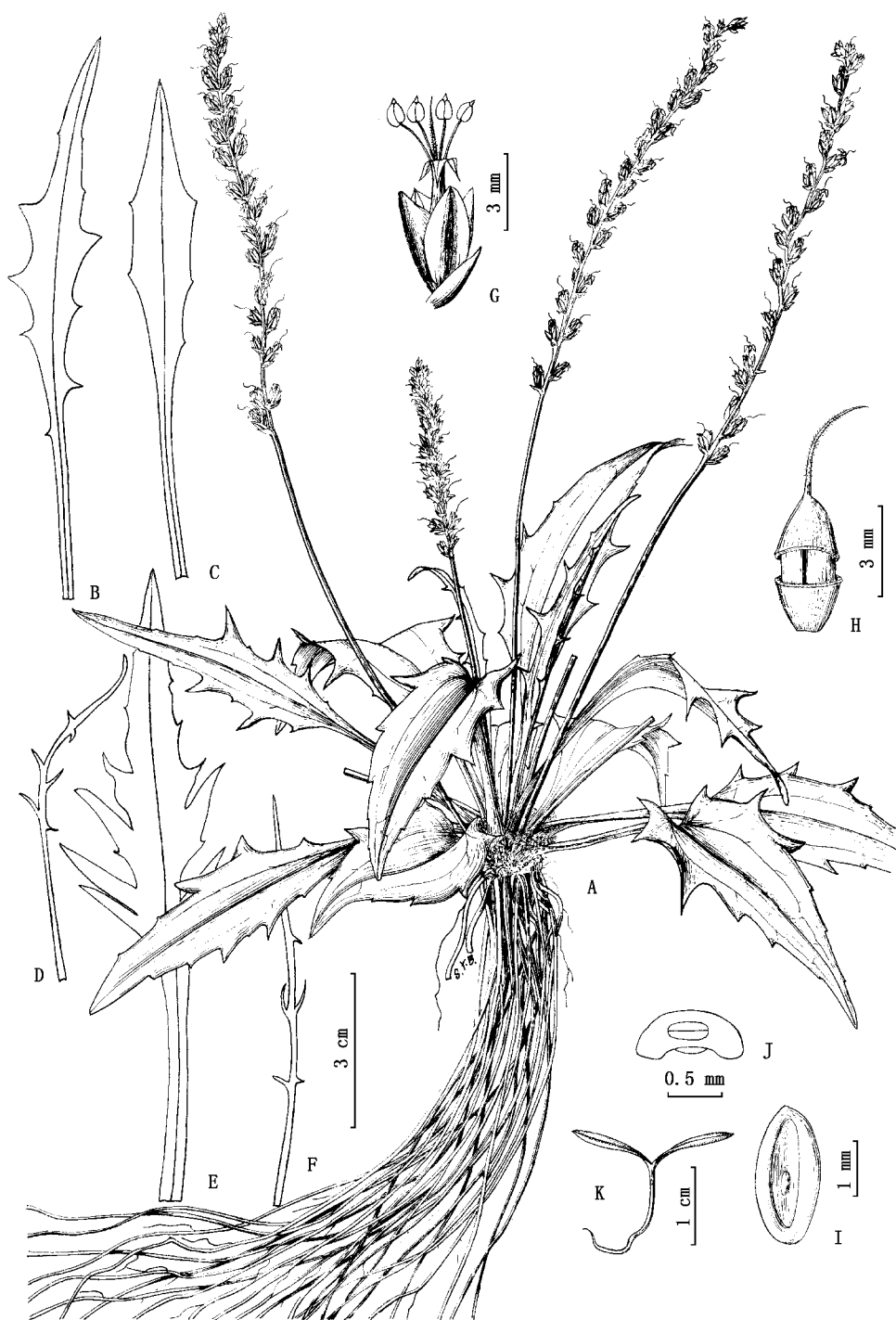


图1 丰都车前 A, 植株; B-F, 叶; G, 花; H, 果; I, 种子腹面; J, 种子横切面; K, 幼苗。(孙英宝根据吴金清 5926 号标本(A, C-J)和摄自模式产地的照片(B, K)绘)

Fig. 1. *Plantago fengdouensis* (Z. E. Zhao & Y. Wang) Y. Wang & Z. Y. Li. A, habit; B-F, leaves; G, flower; H, fruit; I, seed, ventral view; J, transverse section of seed; K, seedling. Drawn by Y. B. Sun from the type gathering, J. Q. Wu 5926 (A, C-J), and a photograph of the plant from the type locality (B, K).

Plantago 的特征。丰都车前的叶较狭长,种子较大,其腹面具 1 纵槽,略成船形,与已知 sect. *Plantago* 的国产种(如车前 *P. asiatica* L.,尖萼车前 *P. cavaleriei* Lévl.)等均不同。其植株干后变黑和种子较大,接近分布于欧洲南部的湿生车前 *P. cornuti* Gouan,但后者叶卵状披针形,边缘全缘或浅波状,具 5–7 条脉,苞片宽卵圆形,花冠裂片卵圆形,蒴果椭圆球形,于基部上方周裂、种子腹面近平坦,不成船形,显然不同。

2001–2003 年的 3 次调查(王勇等 2002)表明:丰都车前仅分布于三峡库区重庆市内的两个长江江心岛,即丰都县名山镇凤尾坝以及忠县乌杨镇塘土坝。两个小岛在三峡水库蓄水前均为季节性水淹小岛,即每年 6 月份开始水淹,10 月份露出水面,水淹时间 1–4 个月,土壤为江水带来的沙石发育而成的初骨土。两小岛相距约 45 km,面积均约 0.4 km²,海拔分别为 145 m 和 140 m,低于当地三峡库区的二期水位淹没线,经、纬度分别为 107°44′14″E 29°54′49″N 和 107°58′33″E 30°12′23″N,2003 年 6 月三峡水库二期蓄水后这两个小岛已全部被淹没。由此可见,丰都车前是分布区十分狭窄、生境特殊、数量稀少的三峡库区消涨带的特有植物,也是迄今为止所发现的因三峡工程建设而导致原始生境被淹的唯一一种草本植物。

2001 年 4 月,我们将上述淹没带中发现的所有丰都车前植株移至武汉植物园进行迁地保护。

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